ERICSSON RX8310

Distribution Receiver

The Ericsson RX8310 Distribution Receiver lets operators take full advantage of the efficiency improvements from DVB-S2 modulation, PREKOR™ Dynamic Pre-correction System by Ericsson, and MPEG-4 AVC compression to distribute three times the amount of content through a satellite transponder verses traditional satellite distribution solutions.

The RX8310 combines a DVB-S2 capable demodulator with Director by Ericsson secure content delivery and over-air receiver control solution as a standard feature. For high capacity digital turn-around, the RX8310 provides the option to decrypt multiple services allowing decryption of a complete multiplex of channels with a single unit. Single service decoding options for MPEG-2 and MPEG-4 AVC 4:2:0 SD video, and HD service down-conversion means the RX8310 can provide a simple and cost-effective route to hand-off video into an analog network or for service monitoring.

The RX8310 simplifies content acquisition for cable, satellite and telco operators in the all-digital future of TV broadcasting.

PRODUCT OVERVIEW

The Perfect Choice for a Large Network

The RX8310 is the perfect receive device for distribution of video services throughout a large network. The RX8310 provides the most up-to-date feature-set, combining maximum transmission efficiency with easy remote management of the receiver population. The RX8310 provides all major functionality and connectivity required to hand-off the service into the remote network.

Increased Distribution Capacity and Efficiency

The RX8310 distribution receiver, in combination with Ericsson's MPEG-4 AVC encoders and PREKOR dynamic pre-correction, leads to a highly efficient video distribution system. Combined with the addition 30 percent increase in channel capacity of DVB-S2 the RX8310 allows operators to achieve three times the amount of content through a transponder.

Simplified Control and Lower Cost of Operations

Organizations with large populations of RX8310 receivers and other Ericsson receivers can simplify control by integrating with the Director by Ericsson control system. Director provides remote, over-air, single-view control from a central location, reducing the need for on-site local operators.

BASE UNIT FEATURES

RX8310 – Distribution Receiver (RX8310/BAS, FAZ 101 0108/18)

The following features are available as standard:
- Four input DVB-S QPSK satellite demodulator
- Transport stream input with ASI connection
- Transport stream output with ASI connection
- Director single service decryption
- Front panel and Web browser control, with alarm relay
- SCTE 35 controlled contact closures for ad-insertion signaling

Optional features include:
- DVB-S2 QPSK and 8PSK demodulation
- Transport stream over IP output
- Director multi-service decryption
- MPEG-2 SD 4:2:0 video decoding through CVBS output
- MPEG-2 HD 4:2:0 down-conversion through CVBS output
- MPEG-4 AVC SD video decoding through CVBS output
- MPEG-4 AVC HD down-conversion through CVBS output
- Two service Dolby® Digital audio decoding with 5.1 to 2.0 down-mixing
- AAC audio decoding with 5.1 to 2.0 down-mixing
- MPE IP data de-encapsulation
- Single service filtering and PID remapping
- Multi-service filtering and stream splitting

HARDWARE OPTIONS

IP Transport Stream Output
(RX83XX/HWO/IP/OUT, FAZ 101 0108/22)

- Encapsulation of transport stream output into IP multicast
- MPTS or single SPTS output stream
- 2x Gigabit Ethernet RJ-45 interfaces

Screw Terminal Audio Break-Out Cable
(RX8XXX/CABLE/SCRTRM, FAZ 101 0108/23)

- Provides screw terminal connections for analog audio output
- 1x stereo pair per breakout cable

XLR Terminal Audio Break-Out Cable
(RX8XXX/CABLE/XLR, FAZ 101 0108/24)

- Provides XLR terminal connections for analog audio output
- 1x stereo pair per breakout cable via 2x XLR connectors

SOFTWARE OPTIONS

Input Options

The RX8310 comes with DVB-S, QPSK support as standard. The unit can optionally be licensed to support the new highly efficient DVB-S2 satellite transmission standard.

DVB-S2 QPSK License
(RX83XX/SWO/DVBS2/QPSK, FAZ 101 0108/6)

- Adds DVB-S2 QPSK capability to DVB-S2 input option card

DVB-S2 8PSK License
(RX83XX/SWO/DVBS2/8PSK, FAZ 101 0108/4)

- Adds DVB-S2 QPSK, 8PSK capability to DVB-S2 input option card

DVB-S2 16APSK License (RX83XX/SWO/DVBS2/16APSK)*

- Adds DVB-S2 QPSK, 8PSK and 16APSK capability to DVB-S2 input option card

DVB-S2 Low Symbol Rate License
(RX83XX/SWO/DVBS2/LSYM, FAZ 101 0108/5)

- Enables DVB-S2 symbol rate of 1 Msym/s to 5 Msym/s

Null Packet Detection Redundancy Switching
(RX83XX/SWO/NULL, FAZ 101 0108/17)

- Redundancy switching from primary to secondary input triggered by presence of null packets in the incoming stream
- User definable percentage of null packets to trigger redundancy switch

Decoding Options
The RX8310 is designed to support a range of video decoding standards

MPEG-2 SD Decoding
(RX83XX/SWO/MPEG2/SD, FAZ 101 0108/10)

- Enables MPEG-2 SD 4:2:0 decoding

MPEG-2 HD Down-conversion
(RX83XX/SWO/MPEG2/HD, FAZ 101 0108/9)

- Enables MPEG-2 SD and HD 4:2:0 decoding
- HD video is down-converted and presented as SD on CVBS output

MPEG-4 AVC SD Decoding
(RX83XX/SWO/MP2/MP4/SD, FAZ 101 0108/12)

- Enables MPEG-2 and MPEG-4 AVC SD 4:2:0 video decoding

MPEG-4 AVC HD Down-conversion
(RX83XX/SWO/MP2/MP4/SD/HD, FAZ 101 0108/11)

- Enables MPEG-2 SD and HD, MPEG-4 AVC SD and HD 4:2:0 decoding
- HD video is down-converted and presented as SD on CVBS output

Audio Options

Dolby® Digital Decode (RX83XX/SWO/AC3, FAZ 101 0108/28)

- Enables decoding of Dolby® Digital Audio
- 2x 2.0 (stereo) decoding
- 2x 5.1 down-mix to 2.0 (stereo)

AAC Decode (RX83XX/SWO/AAC, FAZ 101 0108/2)

- Enables decoding of AAC-LC and HE-AAC
- 2x 2.0 (stereo) decoding
- 2x 5.1 down-mix to 2.0 (stereo)

Conditional Access Options

Director by Ericsson Multi-service Decryption
(RX83XX/SWO/DIR5/MSD, FAZ 101 0108/3)

- Director multi-service decryption
- Director over-air control
- Director over-air software downloads

Stream Processing Options

Single Service Filtering
(RX83XX/SWO/SING/SERVFILT, FAZ 101 0108/15)

- Filter multiple services to output a single service
- Re-map PIDs for the outgoing service

Multi-Service Filtering
(RX83XX/SWO/MULT/SERVFILT, FAZ 101 0108/14)

- Filter N multiple incoming services to M outgoing services
- Re-map PIDs for a single service
- CBR MPTS transport stream output
- Service splitting for multiple IP SPTS output

Data Options
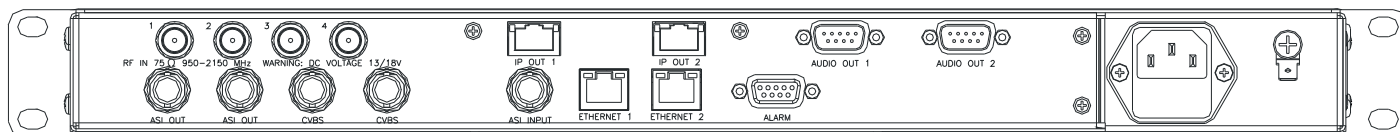
High Speed Data Output (RX83XX/SWO/IP/DATA, FAZ 101 0108/7)

- MPE based data de-encapsulation of IP data
- Requires IP TS output option

Other Software Options

Password Protection of Web Browser
(RX83XX/SWO/PW, FAZ 101 0108/29)

- Enables password protection feature on Web browser control interface to protect from malicious or accidental changes

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SAMPLE CONFIGURATION

SPECIFICATIONS

Video and Audio Options

MPEG-2 SD Decode

Profiles: MP@ML

Max video rate: 15 Mbps (MP@ML)

Video format: 480i and 576i 29.97, 25 fps

MPEG-2 HD with Down-conversion

Profiles: MP@HL

Max. video rate: 80 Mbps (MP@HL)

Video format: 1080i at 29.97 and 25 fps 720p at 59.94 and 50 fps

High definition video down-converted and presented as SD only

SD video format: 480i @ 29.97 or 576i @ 25, 50 fps

MPEG-4 AVC SD Decode

Profiles: MP@L3

Max. video rate: 12 Mbps

Video format: 480i and 576i 29.97, 25 fps

MPEG-4 AVC HD with Down-conversion

Profiles: MP@L4, HP@L4

Max. video rate: 20 Mbps

Video format: 1080i @ 29.97 and 25 fps 720p @ 59.94 and 50 fps

High definition video down-converted and presented as SD only

SD video format: 480i @ 29.97 fps or 576i @ 25, 50 fps

Video Processing

Down-conversion (HD to SD)

Aspect ratio conversion (16:9 to 4:3): none, center cut out, letter box, anamorphic - manual/AFD controlled

VBI

Closed captions, DVB Subtitle burn-in

WST, Inverted Teletext, EBU Teletext subtitles and non subtitles, WSS, VITC, VITC in PES, VPS,

VITS, NABTS, AMOL 48, AMOL 96, TV Guide

Audio Decoding

MPEG-1 Layer-II audio

Dolby® Digital 2.0 decoding

Dolby Digital 5.1 down-mix to 2.0

AAC 2.0 decoding[y]

AAC 5.1 down-mix to 2.0[y]

Sampling rate: 48 kHz

No. stereo pairs: two

Features

Program selection for ATSC, DVB and MPEG-only streams

Input transport rate up to 160 Mbps (Nominal)

One alarm relay, two relays under SCTE 35 control

Service cycling through all decodable services

Input Interfaces

Transport Stream Input

Format: DVB ASI

Connector: 1x BNC 75 Ohm

Max input rate: 160 Mbps

Packet length: 188/204 byte packets

Standard: EN50083-9

Satellite Input

Connector: 4x F-Type, 75 Ohm

Modulation: DVB-S QPSK, DVB-S2 QPSK[y], 8PSK[y], 16APSK*[y]

Frequency range: 950 MHz to 2150 MHz

Input Level: -25 dBm to -65 dBm

Symbol Rate: 1 Msym/s to 45 Msym/s (DVB-S) 1[y](5) - 31(60*)Msym/s (DVB-S2)

Bit-rate: 81 (155*) Mbps max. (DVB-S2)

FEC, DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8

FEC, DVB-S2 QPSK: (1/4, 1/3, 2/5*), 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

FEC, DVB-S2 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10

FEC, DVB-S2 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

DVB-S2 FEC Frame: Short Frames*, Normal Frames

LNB Power: 13V, 18V or off, 22 kHz on/off

Standard: EN300 421, EN302 307

Outputs

DVB ASI-C

Connector: 2x BNC 75 ohms

ASI standard: EN50083-9

CVBS

Connector: 2x BNC 75 ohms

Format: NTSC, PAL

Audio

Connector: 2x 9-pin D-type

Analog audio: two balanced stereo pairs

Decoded audio gain adjustment

Output Options

Transport Stream Output

Transport encapsulation into IP

MPTS/IP/UDP

SPTS/IP/UDP with single service filtering - CBR mode

2x GigE outputs, 100/1000 auto-sensing

High Speed Data Output

MPE based data de-encapsulation[y]

Max. bit rate: 100 Mbps

*Check availability

[y] Indicates an option

Conditional Access

Director by Ericsson

Single service Director decryption

Multi-service Director decryption[y] - up to 24 services

Stream Processing

Single Service filtering

Filter multiple services to one outgoing service[y]

Remap PIDs for the filtered service

Output: CBR on ASI and IP[y] SPTS

Multi-service filtering

Filter N incoming services to M outgoing services[y]

Number of services: 24 max. as 1xMPTS

Re-map PIDs on a single service

Output: CBR on ASI and IP[y] MPTS

Stream splitting - up to 8 services as IP SPTS

Control

Front panel keypad and LCD

Director by Ericsson remote control

Ethernet

Dual RJ45 10/100baseT control interface

Full SNMP control, Web browser interface

Physical and Power

Dimensions (W x D x H)

440 x 400 x 44mm (17.2 x 15.75 x 1.75" approx.)

Input Voltage

110 VAC / 240 VAC

Power Consumption

45W max. (depending on options fitted)

Cooling

Integrated fans

Environmental Conditions

Operating Temperature

0°C to 50°C (32° to 122°F)

Storage Temperature

-20°C to 70°C (4° to 140°F)

Relative Humidity

5% to 95% (Non-condensing)

Compliance

CE marked in accordance with EU Low Voltage and EMC Directives

EMC Compliance

EN55022, EN61000-3-2[10], EN61000-3-3[10], EN55024, CISPR22, FCC CFR47 Part 15B Class A

Safety Compliance

EN60950-1, IEC60950-1, UL60950-1